

### **AMENDMENTS TO THE SPECIFICATION**

**Please amend** the paragraph bridging pages 12 and 13 to read as follows:

**[0024]** The folded antenna, for example, shown in Fig. 3A, having a length of  $L$ , widths of  $p_1$  and  $p_2$  and an interval of  $d$ , is understood by dividing into an even mode of currents  $I_r$  of both segments flowing in a same direction, as shown in Fig. 3B, and an odd mode of currents  $I_f$  flowing in a reverse direction, as shown in Fig. 3C. The even mode and the odd mode shown in Figs. 3B and 3C can be replaced by equivalent circuits shown in Fig. 3D and 3E, respectively by simplifying with communizing the feeding part 4. And in Figs. 3A through 3E,  $I$  represents a current fed to the folded antenna,  $V$  a voltage fed to the folded antenna,  $I_r$  a current fed to segments of the even mode in case of dividing into the even mode and the odd mode,  $I_f$  a current fed in odd mode and  $V$  a feeding voltage respectively. An  $\alpha$  is a factor relating to a coupling of turning parts represented by equation (2) described later.

**Please amend** the paragraph **[0025]** at page 13, to read as follows:

**[0025]** According to Fig. 3D, an input impedance  $Z_r$  of the antenna in the even mode is represented by next equation (1).

$$Z_r = V / \{(1 + \alpha) I_r\} \quad \underline{Z_r = V / \{(1 + \alpha)^2 I_r\}} \quad (1)$$

Here,  $\alpha$  is represented as next equation (2).

**Please amend** the paragraph bridging pages 13 and 14 to read as follows:

**[0027]** And an input impedance  $Z_f$  in the odd mode is represented by next equation (3), obviously from Fig. 3E.

$$Z_f = (1 + \alpha) V / (2 I_f) = j Z_0 \tan(kL) \quad \underline{Z_f = V / (2 I_f) = j Z_0 \tan(kL)} \quad (3)$$

Here,  $k = 2\pi/\lambda$ ,  $\lambda$  represents a wavelength, and  $Z_0$  represents a characteristic resistance of parallel wires (Lecher wires).

**Please amend** the paragraph [0029] at page 14, to read as follows:

**[0029]**

$$\cancel{Z_{in} = \frac{\alpha(1 + \alpha)^2 Z_r \cdot Z_f}{(1 + \alpha)^2 Z_r + 2Z_f}} \quad Z_{in} = \frac{2(1 + \alpha)^2 Z_r \cdot Z_f}{(1 + \alpha)^2 Z_r + 2Z_f} \quad (4)$$

In equation (3),  $kL=2\pi L/\lambda$  has an approximately constant value because the resonance frequency, or the ~~wave-length~~ wavelength  $\lambda$ , is varied with variation of the electrical length  $L$  by turning back. As a result, the input impedance of equation (3) and equation (1) has an approximately constant value even if the resonance frequency varies, although  $\alpha$ , that is the width  $p$  of the antenna or the distance  $d$  between the turning parts varies, and the impedance of equation (4) has a wide band to the resonance frequency.